

Abstract

Color transmissive displays have historically used only backlight for forming the color image, and have not used ambient light. Usually, such a display is not used in bright sunlight, since the color image becomes washed out. Transflective color displays form an image by reflecting ambient light or by transmitting backlight, and can be used in bright sunlight. The transflector in such displays reflects the ambient light while also transmitting the backlight. The requirements on the transflector, however, are different from those used in monochromatic displays. According to the invention, a color transflective display device uses comprises a transmissive display unit having a viewing side and a back side and defining picture elements. A structured transflector is disposed to the back side of the color display unit. The structured transflector includes a structured surface and a layered dielectric reflector disposed over the structured surface.